

## FCC FORM 402 ENGINEERING DATA

## SECTION III-TECHNICAL INFORMATION

TRANSMITTER SITE NAME : THIRD AVE , NY  
 TRANSMITTER COORDINATES : 40 47 3.0 N  
 73 56 54.0 W

20. FREQUENCY (MHZ): SEE EXHIBIT  
 21. EMISSION: SEE EXHIBIT  
 22. TYPE OF MESSAGE SERVICE: VIDEO  
 23. INITIAL BASEBAND CHANNEL LOADING: 1  
 24. 10 YR PROJ. BASEBAND CHANNEL LOAD: 1

## TRANSMITTER INFORMATION

25. OPERATING FREQ. TOL(%): 0.000500  
 26. ANTENNA GAIN (DBI): 48.2  
 27. EFFECTIVE RADIATED POWER (DBM): 33.2  
 28. BEAM WIDTH (DEGREES): 0.6  
 29. CENTER OF RADIATING ELEMENT (FT): 392.0  
 30. POLARIZATION: V  
 31. AZIMUTH TO NEXT STATION OR PR1(DEG): 292.907

## RECEIVER INFORMATION

RECEIVER SITE NAME : STONE HENGE , NY

32. CALL SIGN:  
 33. RECEIVING ANTENNA GAIN (DBI): 48.2  
 34. MEDIAN RECEIVED SIGNAL LEVEL (DBM): -49.5  
 35. LATITUDE N. (DD MM SS): 40 47 59.0  
 36. LONGITUDE W. (DDD MM SS): 73 59 48.5  
 37. GROUND ELEVATION AMSL (FT): 160.0  
 38. HT. TO RECEIVING ANTENNA (FT): 331.0

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## SUPPLEMENTAL INFORMATION

## TRANSMITTER INFORMATION

TRANSMITTER ANTENNA MAKE:	CABLEWAVE SYSTEMS
TRANSMITTER ANTENNA MODEL:	PA6-190
EQUIPMENT MAKE:	HUGHES AIRCRAFT CO
EQUIPMENT MODEL:	DOO63QAMLMOT18120

## RECEIVER INFORMATION

RECEIVING ANTENNA MAKE:	CABLEWAVE SYSTEMS
RECEIVING ANTENNA MODEL:	PA6-190

## FCC FORM 402 ENGINEERING DATA

## SECTION III-TECHNICAL INFORMATION

TRANSMITTER SITE NAME : THIRD AVE , NY  
 TRANSMITTER COORDINATES : 40 47 3.0 N  
 73 56 54.0 W

20. FREQUENCY (MHZ): SEE EXHIBIT  
 21. EMISSION: SEE EXHIBIT  
 22. TYPE OF MESSAGE SERVICE: VIDEO  
 23. INITIAL BASEBAND CHANNEL LOADING: 1  
 24. 10 YR PROJ. BASEBAND CHANNEL LOAD: 1

## TRANSMITTER INFORMATION

25. OPERATING FREQ. TOL(%): 0.000500  
 26. ANTENNA GAIN (DBI): 44.7  
 27. EFFECTIVE RADIATED POWER (DBM): 26.7  
 28. BEAM WIDTH (DEGREES): 0.9  
 29. CENTER OF RADIATING ELEMENT (FT): 392.0  
 30. POLARIZATION: V  
 31. AZIMUTH TO NEXT STATION OR PR1(DEG): 299.037

## RECEIVER INFORMATION

RECEIVER SITE NAME : 12 WEST 96 , NY

32. CALL SIGN:  
 33. RECEIVING ANTENNA GAIN (DBI): 48.2  
 34. MEDIAN RECEIVED SIGNAL LEVEL (DBM): -47.7  
 35. LATITUDE N. (DD MM SS): 40 47 30.0  
 36. LONGITUDE W. (DDD MM SS): 73 57 58.0  
 37. GROUND ELEVATION AMSL (FT): 105.0  
 38. HT. TO RECEIVING ANTENNA (FT): 190.0

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## SUPPLEMENTAL INFORMATION

## TRANSMITTER INFORMATION

TRANSMITTER ANTENNA MAKE: CABLEWAVE SYSTEMS  
 TRANSMITTER ANTENNA MODEL: PA4-190  
 EQUIPMENT MAKE: HUGHES AIRCRAFT CO  
 EQUIPMENT MODEL: D0063QAMLMOT18120

## RECEIVER INFORMATION

RECEIVING ANTENNA MAKE: CABLEWAVE SYSTEMS  
 RECEIVING ANTENNA MODEL: PA6-190

EXHIBIT #1

<u>FREQUENCY</u>	<u>EMISSION DESIGNATOR</u>
18145.0	5750A5C/250F3
18151.0	5750A5C/250F3
18157.0	5750A5C/250F3
18163.0	100AO
18169.0	5750A5C/250F3
18175.0	5750A5C/250F3
18181.0	5750A5C/250F3
18187.0	5750A5C/250F3
18193.0	5750A5C/250F3
18199.0	5750A5C/250F3
18205.0	5750A5C/250F3
18211.0	5750A5C/250F3
18217.0	5750A5C/250F3
18223.0	5750A5C/250F3
18229.0	5750A5C/250F3
18235.0	5750A5C/250F3
18241.0	5750A5C/250F3
18247.0	5750A5C/250F3
18253.0	5750A5C/250F3
18259.0	5750A5C/250F3
18265.0	5750A5C/250F3
18271.0	5750A5C/250F3
18277.0	5750A5C/250F3
18283.0	5750A5C/250F3
18289.0	5750A5C/250F3
18295.0	5750A5C/250F3
18301.0	5750A5C/250F3
18307.0	5750A5C/250F3
18313.0	5750A5C/250F3
18319.0	5750A5C/250F3
18325.0	5750A5C/250F3
18331.0	5750A5C/250F3
18337.0	5750A5C/250F3
18343.0	5750A5C/250F3
18349.0	5750A5C/250F3
18355.0	5750A5C/250F3
18361.0	5750A5C/250F3
18367.0	5750A5C/250F3
18373.0	5750A5C/250F3
18379.0	5750A5C/250F3
18385.0	5750A5C/250F3
18391.0	5750A5C/250F3
18397.0	5750A5C/250F3
18403.0	5750A5C/250F3
18409.0	5750A5C/250F3
18415.0	5750A5C/250F3
18421.0	5750A5C/250F3
18427.0	5750A5C/250F3
18433.0	5750A5C/250F3
18439.0	5750A5C/250F3
18445.0	5750A5C/250F3

EXHIBIT #1 CONTINUED

<u>FREQUENCY</u>	<u>EMISSION DESIGNATOR</u>
18451.0	5750A5C/250F3
18457.0	5750A5C/250F3
18463.0	5750A5C/250F3
18469.0	5750A5C/250F3
18475.0	5750A5C/250F3
18481.0	5750A5C/250F3
18487.0	5750A5C/250F3
18493.0	5750A5C/250F3
18499.0	5750A5C/250F3
18505.0	5750A5C/250F3
18511.0	5750A5C/250F3
18517.0	5750A5C/250F3
18523.0	5750A5C/250F3
18529.0	5750A5C/250F3
18535.0	5750A5C/250F3
18541.0	5750A5C/250F3
18547.0	5750A5C/250F3
18553.0	5750A5C/250F3
18559.0	5750A5C/250F3
18565.0	5750A5C/250F3
18571.0	5750A5C/250F3
18577.0	5750A5C/250F3

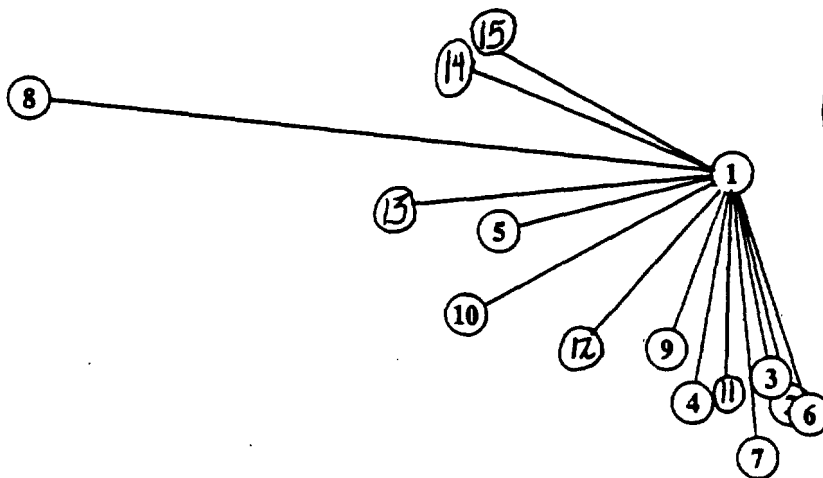
**STATEMENT OF ELIGIBILITY AND USE**

Applicant is engaged in the operation of a commercial activity as a provider of video entertainment programming to customers. Therefore, Applicant is eligible for operational-fixed microwave frequencies under section 90.75(a)(1) of the Commission's rules.

Applicant proposes to distribute its own products and services to customers using operational-fixed frequencies in the band 18,142-18,580 MHz. Pursuant to section 94.31(j) of the Commission's rules, the nature of the products and services to be distributed are described below. Applicant is the owner and operator of various private cable (SMATV) systems and proposes the point-to-point distribution of video entertainment material to private cable buildings and ultimately subscribers to the service. Section 94.9(a)(1) of the Commission's rules prohibits the distribution of video entertainment material to customers on frequencies below 21,200 MHz except as provided in Section 94.61(b) and Section 94.9(a)(2). Section 94.9(a)(2) authorizes a licensee to transmit any of its own products or services, including video entertainment programming, to any receiving location on frequencies in the 18,142-18,580 MHz band. Thus, Applicant's proposed use of the 18,142-18,580 MHz band frequencies is consistent with the Commission's rules.



**SITE INFORMATION**



- ✓ ① NORMANDIE COURT  
LAT: 40 - 47 - 3.0  
LONG: 73 - 56 - 54.0
- ✓ ② 535 EAST 86TH STREET  
LAT: 40 - 46 - 37.0  
LONG: 73 - 56 - 45.0
- ③ 1675 YORK AVENUE  
LAT: 40 - 46 - 40.0  
LONG: 73 - 56 - 48.0
- ④ 345 EAST 86TH STREET  
LAT: 40 - 46 - 37.0  
LONG: 73 - 57 - 0.0
- ⑤ 19 EAST 88TH STREET  
LAT: 40 - 46 - 56.0  
LONG: 73 - 57 - 36
- ⑥ 180 EAST END  
LAT: 40 - 46 - 36.0  
LONG: 73 - 56 - 42.0
- ✓ ⑦ 510 EAST 86TH STREET  
LAT: 40 - 46 - 31.0  
LONG: 73 - 56 - 50.0
- ⑧ 90 RIVERSIDE  
LAT: 40 - 47 - 10.0  
LONG: 73 - 58 - 42.0
- ⑨ 302 EAST 88TH (PATH A)  
LAT: 40 - 46 - 43.0  
LONG: 73 - 57 - 4.0
- ⑩ 38 EAST 85TH (PATH B)  
LAT: 40 - 46 - 46.5  
LONG: 73 - 57 - 35.0
- ⑪ 60 East End (PATH C)  
Lat: 40-46-22  
Long: 73-56-50
- ⑫ Claridge (PATH D)  
Lat: 40-46-47  
Long: 73-57-12
- ⑬ High Gate (PATH E)  
Lat: 40-47-02  
Long: 73-57-03
- ⑭ Stone Henge (PATH F)  
Lat: 40-47-59  
Long: 73-59-48

⑮ 12 West 96th (PATH G)  
Lat: 40-47-30  
Long: 73-57-58

**LIBERTY CABLE COMPANY  
18 GHZ CABLE SYSTEM**



PATH A

PAGE: 1 OF 1

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11720 Sunrise Valley Drive  
Reston, Virginia 22091  
(703) 620-6300

LIBERTY CABLE TELEVISION

04/01/93

## MICROWAVE PATH DATA

<u>STATION NAME</u>	THIRD AVE	NY	302 E 88TH	NY
<u>PATH STATUS</u>	PROPOSED OR PRIOR COORDINATED			
<u>CALL SIGN</u>	WNT939			
LATITUDE (D-M-S)	40 47	3.0	40 46	43.0
LONGITUDE (D-M-S)	73 56	54.0	73 57	4.0
GROUND ELEV (FT-AMSL)	30		50	
PATH AZIMUTH (DEG)	200.812		20.810	
PATH DISTANCE (MILES)		0.410		
		0.660		
<u>ANTENNA</u>				
<u>PRIMARY</u>	TX	CABLEWAVE SYSTEMS	NOT APPLICABLE	
		PA4-190		
FCC CODE		CB0082		
GAIN (dBi)		44.7		
C/L (FT-AGL)		392		
<u>PRIMARY</u>	RX	NOT APPLICABLE	CABLEWAVE SYSTEMS	
			PA4-190	
FCC CODE			CB0082	
GAIN (dBi)			44.7	
C/L (FT-AGL)			80	
<u>DIVERSITY</u>				
<u>FCC CODE</u>				
GAIN (dBi)				
C/L (FT-AGL)				
<u>EQUIPMENT</u>		HUGHES AIRCRAFT CO	RECEIVE	
		DOO63QAMLMOT18120	ONLY	
FCC CODE		PENDING		
EMISSION		5M75C3F/250F3/100AO		
LOADING		VIDEO		
STABILITY (%)		0.000500		
POWER (DBM)		-10.0		
RECEIVED LEVEL (DBM)			-46.9	
EIRP (DBM)	22.7			
FIXED LOSSES (DB)	12.0		0.0	
FREE SPACE LOSS (DB)		114.3		
TRANSMIT	18145.0V,18151.0V,18157.0V,18163.0V,18169.0V,18175.0V,18181.0V			
FREQUENCIES	18187.0V,18193.0V,18199.0V,18205.0V,18211.0V,18217.0V,18223.0V			
(MHZ)	18229.0V,18235.0V,18241.0V,18247.0V,18253.0V,18259.0V,18265.0V			
	18271.0V,18277.0V,18283.0V,18289.0V,18295.0V,18301.0V,18307.0V			
	18313.0V,18319.0V,18325.0V,18331.0V,18337.0V,18343.0V,18349.0V			
	18355.0V,18361.0V,18367.0V,18373.0V,18379.0V,18385.0V,18391.0V			
	18397.0V,18403.0V,18409.0V,18415.0V,18421.0V,18427.0V,18433.0V			
	18439.0V,18445.0V,18451.0V,18457.0V,18463.0V,18469.0V,18475.0V			
	18481.0V,18487.0V,18493.0V,18499.0V,18505.0V,18511.0V,18517.0V			
	18523.0V,18529.0V,18535.0V,18541.0V,18547.0V,18553.0V,18559.0V			
	18565.0V,18571.0V,18577.0V			

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LIBERTY CABLE TELEVISION

04/01/93

## MICROWAVE PATH DATA

<u>STATION NAME</u>	THIRD AVE	NY	38 EAST 85TH NY
<u>PATH STATUS</u>	PROPOSED OR PRIOR COORDINATED		
<u>CALL SIGN</u>	WNT939		
<u>LATITUDE</u> (D-M-S)	40 47 3.0		40 46 46.5
<u>LONGITUDE</u> (D-M-S)	73 56 54.0		73 57 35.0
<u>GROUND ELEV</u> (FT-AMSL)	30		95
<u>PATH AZIMUTH</u> (DEG)	242.106		62.099
<u>PATH DISTANCE</u> (MILES)		0.676	
		1.088	
<u>ANTENNA</u>			
<u>PRIMARY</u>	TX	CABLEWAVE SYSTEMS	NOT APPLICABLE
		PA4-190	
<u>FCC CODE</u>		CB0082	
<u>GAIN</u> (dBi)		44.7	
<u>C/L</u> (FT-AGL)		392	
<u>PRIMARY</u>	RX	NOT APPLICABLE	CABLEWAVE SYSTEMS
			PA6-190
<u>FCC CODE</u>			CB0093
<u>GAIN</u> (dBi)			48.2
<u>C/L</u> (FT-AGL)			119
<u>DIVERSITY</u>			
<u>FCC CODE</u>			
<u>GAIN</u> (dBi)			
<u>C/L</u> (FT-AGL)			
<u>EQUIPMENT</u>		HUGHES AIRCRAFT CO	RECEIVE
		DO063QAMLMOT18120	ONLY
<u>FCC CODE</u>		PENDING	
<u>EMISSION</u>		5M75C3F/250F3/100AO	
<u>LOADING</u>		VIDEO	
<u>STABILITY (%)</u>		0.00050	
<u>POWER (DBM)</u>		-10.0	
<u>RECEIVED LEVEL (DBM)</u>			-48.7
<u>EIRP (DBM)</u>	21.7		
<u>FIXED LOSSES (DB)</u>	13.0		0.0
<u>FREE SPACE LOSS (DB)</u>		118.6	

<u>TRANSMIT</u>	18145.0V, 18151.0V, 18157.0V, 18163.0V, 18169.0V, 18175.0V, 18181.0V
<u>FREQUENCIES</u>	18187.0V, 18193.0V, 18199.0V, 18205.0V, 18211.0V, 18217.0V, 18223.0V
<u>(MHZ)</u>	18229.0V, 18235.0V, 18241.0V, 18247.0V, 18253.0V, 18259.0V, 18265.0V
	18271.0V, 18277.0V, 18283.0V, 18289.0V, 18295.0V, 18301.0V, 18307.0V
	18313.0V, 18319.0V, 18325.0V, 18331.0V, 18337.0V, 18343.0V, 18349.0V
	18355.0V, 18361.0V, 18367.0V, 18373.0V, 18379.0V, 18385.0V, 18391.0V
	18397.0V, 18403.0V, 18409.0V, 18415.0V, 18421.0V, 18427.0V, 18433.0V
	18439.0V, 18445.0V, 18451.0V, 18457.0V, 18463.0V, 18469.0V, 18475.0V
	18481.0V, 18487.0V, 18493.0V, 18499.0V, 18505.0V, 18511.0V, 18517.0V
	18523.0V, 18529.0V, 18535.0V, 18541.0V, 18547.0V, 18553.0V, 18559.0V
	18565.0V, 18571.0V, 18577.0V



PATH C

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(703) 620-6300

LIBERTY CABLE CO., INC.

04/28/93

## MICROWAVE PATH DATA

<u>STATION NAME</u>	THIRD AVE	NY	60 EAST END	NY
<u>PATH STATUS</u>	PROPOSED OR PRIOR COORDINATED			
<u>CALL SIGN</u>	WNT939			
LATITUDE (D-M-S)	40 47	3.0	40 46	22.0
LONGITUDE (D-M-S)	73 56	54.0	73 56	50.0
GROUND ELEV (FT-AMSL)	30		36	
PATH AZIMUTH (DEG)	175.758		355.759	
PATH DISTANCE (MILES)		0.788		
		1.268		
<u>ANTENNA</u>				
<u>PRIMARY</u>	TX	CABLEWAVE SYSTEMS	NOT APPLICABLE	
		PA4-190		
FCC CODE		CB0082		
GAIN (dBi)		44.7		
C/L (FT-AGL)		370		
<u>PRIMARY</u>	RX	NOT APPLICABLE	CABLEWAVE SYSTEMS	
			PA6-190	
FCC CODE			CB0093	
GAIN (dBi)			48.2	
C/L (FT-AGL)			530	
<u>DIVERSITY</u>				
<u>FCC CODE</u>				
GAIN (dBi)				
C/L (FT-AGL)				
<u>EQUIPMENT</u>		HUGHES AIRCRAFT CO	RECEIVE	
		DOO63QAMLMOT18120	ONLY	
FCC CODE		PENDING		
EMISSION		5M75C3F/250F3/100AO		
LOADING		VIDEO		
STABILITY (%)		0.000500		
POWER (DBM)		-10.0		
RECEIVED LEVEL (DBM)			-47.1	
EIRP (DBM)	24.7			
FIXED LOSSES (DB)	10.0		0.0	
FREE SPACE LOSS (DB)		120.0		
TRANSMIT	18145.0V, 18151.0V, 18157.0V, 18163.0V, 18169.0V, 18175.0V, 18181.0V			
FREQUENCIES	18187.0V, 18193.0V, 18199.0V, 18205.0V, 18211.0V, 18217.0V, 18223.0V			
(MHZ)	18229.0V, 18235.0V, 18241.0V, 18247.0V, 18253.0V, 18259.0V, 18265.0V			
	18271.0V, 18277.0V, 18283.0V, 18289.0V, 18295.0V, 18301.0V, 18307.0V			
	18313.0V, 18319.0V, 18325.0V, 18331.0V, 18337.0V, 18343.0V, 18349.0V			
	18355.0V, 18361.0V, 18367.0V, 18373.0V, 18379.0V, 18385.0V, 18391.0V			
	18397.0V, 18403.0V, 18409.0V, 18415.0V, 18421.0V, 18427.0V, 18433.0V			
	18439.0V, 18445.0V, 18451.0V, 18457.0V, 18463.0V, 18469.0V, 18475.0V			
	18481.0V, 18487.0V, 18493.0V, 18499.0V, 18505.0V, 18511.0V, 18517.0V			
	18523.0V, 18529.0V, 18535.0V, 18541.0V, 18547.0V, 18553.0V, 18559.0V			
	18565.0V, 18571.0V, 18577.0V			

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LIBERTY CABLE CO., INC.

04/28/93

## MICROWAVE PATH DATA

<u>STATION NAME</u>	THIRD AVE	NY	CLARIDGE H	NY
<u>PATH STATUS</u>	PROPOSED OR PRIOR COORDINATED			
CALL SIGN	WNT939			
LATITUDE (D-M-S)	40 47	3.0	40 46	47.0
LONGITUDE (D-M-S)	73 56	54.0	73 57	12.0
GROUND ELEV (FT-AMSL)	30		80	
PATH AZIMUTH (DEG)	220.538		40.535	
PATH DISTANCE (MILES)		0.404		
(KM)		0.649		
<u>PRIMARY</u>	TX	CABLEWAVE SYSTEMS	NOT APPLICABLE	
		PA4-190		
FCC CODE		CB0082		
GAIN (dBi)		44.7		
C/L (FT-AGL)		392		
<u>PRIMARY</u>	RX	NOT APPLICABLE	CABLEWAVE SYSTEMS	
			PA6-190	
FCC CODE			CB0093	
GAIN (dBi)			48.2	
C/L (FT-AGL)			309	
<u>DIVERSITY</u>				
<u>FCC CODE</u>				
GAIN (dBi)				
C/L (FT-AGL)				
<u>EQUIPMENT</u>	HUGHES AIRCRAFT CO		RECEIVE	
	DO063QAMLMOT18120		ONLY	
FCC CODE	PENDING			
EMISSION	5M75C3F/250F3/100AO			
LOADING	VIDEO			
STABILITY (%)	0.000500			
POWER (DBM)	-10.0			
RECEIVED LEVEL (DBM)			-46.3	
EIRP (DBM)	19.7			
FIXED LOSSES (DB)	15.0		0.0	
FREE SPACE LOSS (DB)		114.2		
TRANSMIT	18145.0V, 18151.0V, 18157.0V, 18163.0V, 18169.0V, 18175.0V, 18181.0V			
FREQUENCIES	18187.0V, 18193.0V, 18199.0V, 18205.0V, 18211.0V, 18217.0V, 18223.0V			
(MHZ)	18229.0V, 18235.0V, 18241.0V, 18247.0V, 18253.0V, 18259.0V, 18265.0V			
	18271.0V, 18277.0V, 18283.0V, 18289.0V, 18295.0V, 18301.0V, 18307.0V			
	18313.0V, 18319.0V, 18325.0V, 18331.0V, 18337.0V, 18343.0V, 18349.0V			
	18355.0V, 18361.0V, 18367.0V, 18373.0V, 18379.0V, 18385.0V, 18391.0V			
	18397.0V, 18403.0V, 18409.0V, 18415.0V, 18421.0V, 18427.0V, 18433.0V			
	18439.0V, 18445.0V, 18451.0V, 18457.0V, 18463.0V, 18469.0V, 18475.0V			
	18481.0V, 18487.0V, 18493.0V, 18499.0V, 18505.0V, 18511.0V, 18517.0V			
	18523.0V, 18529.0V, 18535.0V, 18541.0V, 18547.0V, 18553.0V, 18559.0V			
	18565.0V, 18571.0V, 18577.0V			

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(703) 620-6300

LIBERTY CABLE CO., INC.

04/28/93

## MICROWAVE PATH DATA

STATION NAME	THIRD AVE	NY	HIGH GATE	NY
PATH STATUS	PROPOSED OR PRIOR COORDINATED			
CALL SIGN	WNT939			
LATITUDE (D-M-S)	40 47	3.0	40 47	2.0
LONGITUDE (D-M-S)	73 56	54.0	73 57	3.0
GROUND ELEV (FT-AMSL)	30		60	
PATH AZIMUTH (DEG)	261.685		81.683	
PATH DISTANCE (MILES)		0.133		
		0.213		
ANTENNA				
PRIMARY TX	CABLEWAVE SYSTEMS		NOT APPLICABLE	
	PA2-190			
FCC CODE	CB0062			
GAIN (dBi)	38.9			
C/L (FT-AGL)	392			
PRIMARY RX	NOT APPLICABLE		CABLEWAVE SYSTEMS	
			PA4-190	
FCC CODE			CB0082	
GAIN (dBi)			44.7	
C/L (FT-AGL)			291	
DIVERSITY				
FCC CODE				
GAIN (dBi)				
C/L (FT-AGL)				
EQUIPMENT	HUGHES AIRCRAFT CO		RECEIVE	
	DOO63QAMLMOT18120		ONLY	
FCC CODE	PENDING			
EMISSION	5M75C3F/250F3/100AO			
LOADING	VIDEO			
STABILITY (%)	0.000500			
POWER (DBM)	-10.0			
RECEIVED LEVEL (DBM)			-45.9	
EIRP (DBM)	13.9			
FIXED LOSSES (DB)	15.0		0.0	
FREE SPACE LOSS (DB)		104.5		
TRANSMIT	18145.0V,18151.0V,18157.0V,18163.0V,18169.0V,18175.0V,18181.0V			
FREQUENCIES	18187.0V,18193.0V,18199.0V,18205.0V,18211.0V,18217.0V,18223.0V			
(MHZ)	18229.0V,18235.0V,18241.0V,18247.0V,18253.0V,18259.0V,18265.0V			
	18271.0V,18277.0V,18283.0V,18289.0V,18295.0V,18301.0V,18307.0V			
	18313.0V,18319.0V,18325.0V,18331.0V,18337.0V,18343.0V,18349.0V			
	18355.0V,18361.0V,18367.0V,18373.0V,18379.0V,18385.0V,18391.0V			
	18397.0V,18403.0V,18409.0V,18415.0V,18421.0V,18427.0V,18433.0V			
	18439.0V,18445.0V,18451.0V,18457.0V,18463.0V,18469.0V,18475.0V			
	18481.0V,18487.0V,18493.0V,18499.0V,18505.0V,18511.0V,18517.0V			
	18523.0V,18529.0V,18535.0V,18541.0V,18547.0V,18553.0V,18559.0V			
	18565.0V,18571.0V,18577.0V			

COMSEARCH  
11720 Sunrise Valley Drive  
Reston, Virginia 22091  
(703) 620-6300

LIBERTY CABLE CO., INC.

04/28/93

## MICROWAVE PATH DATA

<u>STATION NAME</u>	THIRD AVE	NY	STONE HENG	NY
<u>PATH STATUS</u>	PROPOSED OR PRIOR COORDINATED			
<u>CALL SIGN</u>	WNT939			
<u>LATITUDE</u> (D-M-S)	40 47	3.0	40 47	59.0
<u>LONGITUDE</u> (D-M-S)	73 56	54.0	73 59	48.5
<u>GROUND ELEV</u> (FT-AMSL)	30		160	
<u>PATH AZIMUTH</u> (DEG)	292.907		112.875	
<u>PATH DISTANCE</u> (MILES)		2.759		
		4.441		
<u>ANTENNA</u>				
<u>PRIMARY</u>	TX	CABLEWAVE SYSTEMS	NOT APPLICABLE	
		PA6-190		
<u>FCC CODE</u>		CB0093		
<u>GAIN</u> (dBi)		48.2		
<u>C/L</u> (FT-AGL)		392		
<u>PRIMARY</u>	RX	NOT APPLICABLE	CABLEWAVE SYSTEMS	
			PA6-190	
<u>FCC CODE</u>			CB0093	
<u>GAIN</u> (dBi)			48.2	
<u>C/L</u> (FT-AGL)			331	
<u>DIVERSITY</u>				
<u>FCC CODE</u>				
<u>GAIN</u> (dBi)				
<u>C/L</u> (FT-AGL)				
<u>EQUIPMENT</u>		HUGHES AIRCRAFT CO	RECEIVE	
		DO063QAMLMOT18120	ONLY	
<u>FCC CODE</u>		PENDING		
<u>EMISSION</u>		5M75C3F/250F3/100AO		
<u>LOADING</u>		VIDEO		
<u>STABILITY (%)</u>		0.000500		
<u>POWER (DBM)</u>		-10.0		
<u>RECEIVED LEVEL</u> (DBM)			-49.5	
<u>EIRP</u> (DBM)	33.2			
<u>FIXED LOSSES</u> (DB)	5.0		0.0	
<u>FREE SPACE LOSS</u> (DB)		130.9		
<u>TRANSMIT</u>	18145.0V,18151.0V,18157.0V,18163.0V,18169.0V,18175.0V,18181.0V			
<u>FREQUENCIES</u>	18187.0V,18193.0V,18199.0V,18205.0V,18211.0V,18217.0V,18223.0V			
<u>(MHZ)</u>	18229.0V,18235.0V,18241.0V,18247.0V,18253.0V,18259.0V,18265.0V			
	18271.0V,18277.0V,18283.0V,18289.0V,18295.0V,18301.0V,18307.0V			
	18313.0V,18319.0V,18325.0V,18331.0V,18337.0V,18343.0V,18349.0V			
	18355.0V,18361.0V,18367.0V,18373.0V,18379.0V,18385.0V,18391.0V			
	18397.0V,18403.0V,18409.0V,18415.0V,18421.0V,18427.0V,18433.0V			
	18439.0V,18445.0V,18451.0V,18457.0V,18463.0V,18469.0V,18475.0V			
	18481.0V,18487.0V,18493.0V,18499.0V,18505.0V,18511.0V,18517.0V			
	18523.0V,18529.0V,18535.0V,18541.0V,18547.0V,18553.0V,18559.0V			
	18565.0V,18571.0V,18577.0V			

PATH G

PAGE: 3 OF

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(703) 620-6300

LIBERTY CABLE CO., INC.

04/28/93

## MICROWAVE PATH DATA

<u>STATION NAME</u>	THIRD AVE	NY	12 WEST 96	NY
<u>PATH STATUS</u>	PROPOSED OR PRIOR COORDINATED			
CALL SIGN	WNT939			
LATITUDE (D-M-S)	40 47	3.0	40 47	30.0
LONGITUDE (D-M-S)	73 56	54.0	73 57	58.0
GROUND ELEV (FT-AMSL)	30		105	
PATH AZIMUTH (DEG)	299.037		119.026	
PATH DISTANCE (MILES)		1.066		
	(KM)	1.716		
<u>ANTENNA</u>				
<u>PRIMARY</u>	TX	CABLEWAVE SYSTEMS	NOT APPLICABLE	
FCC CODE		PA4-190		
GAIN (dBi)		CB0082		
C/L (FT-AGL)		44.7		
<u>PRIMARY</u>	RX	392	CABLEWAVE SYSTEMS	
FCC CODE		NOT APPLICABLE	PA6-190	
GAIN (dBi)			CB0093	
C/L (FT-AGL)			48.2	
<u>DIVERSITY</u>			190	
<u>FCC CODE</u>				
GAIN (dBi)				
C/L (FT-AGL)				
<u>EQUIPMENT</u>		HUGHES AIRCRAFT CO	RECEIVE	
FCC CODE		DOO63QAMLMOT18120	ONLY	
EMISSION		PENDING		
LOADING		5M75C3F/250F3/100AO		
STABILITY (%)		VIDEO		
POWER (DBM)		0.000500		
		-10.0		
RECEIVED LEVEL (DBM)			-47.7	
EIRP (DBM)	26.7			
FIXED LOSSES (DB)	8.0		0.0	
FREE SPACE LOSS (DB)		122.6		
TRANSMIT	18145.0V, 18151.0V, 18157.0V, 18163.0V, 18169.0V, 18175.0V, 18181.0V			
FREQUENCIES	18187.0V, 18193.0V, 18199.0V, 18205.0V, 18211.0V, 18217.0V, 18223.0V			
(MHZ)	18229.0V, 18235.0V, 18241.0V, 18247.0V, 18253.0V, 18259.0V, 18265.0V			
	18271.0V, 18277.0V, 18283.0V, 18289.0V, 18295.0V, 18301.0V, 18307.0V			
	18313.0V, 18319.0V, 18325.0V, 18331.0V, 18337.0V, 18343.0V, 18349.0V			
	18355.0V, 18361.0V, 18367.0V, 18373.0V, 18379.0V, 18385.0V, 18391.0V			
	18397.0V, 18403.0V, 18409.0V, 18415.0V, 18421.0V, 18427.0V, 18433.0V			
	18439.0V, 18445.0V, 18451.0V, 18457.0V, 18463.0V, 18469.0V, 18475.0V			
	18481.0V, 18487.0V, 18493.0V, 18499.0V, 18505.0V, 18511.0V, 18517.0V			
	18523.0V, 18529.0V, 18535.0V, 18541.0V, 18547.0V, 18553.0V, 18559.0V			
	18565.0V, 18571.0V, 18577.0V			

FREQUENCY COORDINATION

Pursuant to section 94.15(b) of the FCC's rules, Applicant has conducted a frequency engineering analysis of the potential interference between the proposed facilities and previously authorized and pending applications. Attached hereto are the Supplemental Showings of Comsearch certifying compliance with the interference standards of sections 21.100(d) and 94.63 of the FCC's rules.



APRIL 01, 1993

\*\*\*\*\*  
\*\*\* CLIENT COPY \*\*\*  
\*\*\* PLEASE MAIL \*\*\*  
\*\*\* TO CUSTOMER \*\*\*

RE: Liberty Cable Television  
New Street Address  
215 East 95th Street, New York, NY 10128  
18 GHz Video Microwave System  
Receive Antenna Centerline Changes (pages 1-4 of 10)  
Previous PCN Dated 02/24/93  
Third Ave -> 302 E 88th, NY; 1 Lincoln Pl -> 30 Lincoln, NY  
205 East 64th -> 144 E 84th, NY, 911 Park Ave, NY  
Changes Have Been Underlined  
205 East 64th -> 155 East 73rd, NY, 857 5th, NY  
205 East 64th -> 785 Park, NY; Third Ave -> 38 E 85th, NY  
Windsor Court -> 245 East 25th, NY, 407 Park Ave, NY

Dear Sir or Madam:

On behalf of Liberty Cable Television, we are forwarding the attached coordination data for the proposed microwave path referenced above, pursuant to Parts 21.100(d) and 94.15(a) of the FCC Rules.

Please examine this data for potential interference with your stations. In the event that interference problems are discovered, please notify us at your earliest convenience. If a response is not received within thirty days of 04/06/93, we will assume that you have no objections to this proposal.

If you have any questions or require additional information, please call me.

Sincerely,

Michael R. Roth  
Engineer  
Transmission Planning Services

Enclosure



SUPPLEMENTAL SHOWING, PART 21.100(D)

Liberty Cable Television  
New Street Address  
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PURSUANT TO PART 21.100(D) OF THE FCC RULES AND REGULATIONS THE ABOVE REFERENCED MICROWAVE ROUTE WAS COORDINATED WITH THE EXISTING LICENSEES AND APPLICANTS WHOSE FACILITIES COULD BE AFFECTED. COORDINATION DATA WAS FORWARDED ON APRIL 01, 1993.

THE FOLLOWING CARRIERS OR THEIR DESIGNATED COORDINATION AGENTS WERE NOTIFIED:

AAD MICROWAVE SERVICES CORPORATION  
AAT COMMUNICATIONS CORPORATION  
ABC RADIO NETWORK INC  
ABRAHAM AND STRAUS  
ACC NETWORK CORPORATION  
AETNA LIFE INSURANCE COMPANY  
ALBANY TELEPHONE COMPANY  
ALLENTOWN CELLULAR TELEPHONE COMPANY  
AMERICAN CELL. NET. CORP. dba COMCAST CE  
AMERICAN SATELLITE COMPANY  
AMICA MUTUAL INSURANCE CO C/O NEW ENG DI  
ASSOCIATED PRESS - CTS ENGINEERING  
AT&T COMMUNICATIONS  
BELL ATLANTIC - NSS  
BELL COMMUNICATIONS RESEARCH, INC.  
BLUE CROSS BLUE SHIELD OF MASSACHUSETTS  
BOLT BERANEK AND NEWMAN INC  
BOSTON EDISON COMPANY  
CABLE SCIENCE CORPORATION  
CANTON CELLULAR TELEPHONE - PENNSYLVANIA  
CARL COMPANY  
CELLULAR OF UPSTATE NEW YORK





SUPPLEMENTAL SHOWING, PART 21.100(D)

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(CONT'D)

CELLULAR TELEPHONE COMPANY OF NEW YORK  
CHANNEL 13 TELEVISION  
CHANNEL 20 LICENSEE INC  
CHASE MANHATTAN BANK  
CITY UNIVERSITY OF NEW YORK  
COLUMBIA UNIVERSITY  
COMDISCO DISASTER RECOVERY SERVICE  
COMMUNITY HOME ENTERTAINMENT  
COMPUGRAPHIC  
COMSEARCH  
CONNECTICUT BANK AND TRUST COMPANY  
CONNECTICUT LIGHT AND POWER COMPANY  
CONNECTICUT PUBLIC BROADCASTING, INC.  
CONSOLIDATED EDISON COMPANY OF NEW YORK  
CONSOLIDATED RAIL CORPORATION  
CONSOLIDATED SPECTRUM SERVICES  
CORP. SATELLITE COMMUNICATIONS INC (CSC)  
DEAD COMPANY  
DELMARVA POWER & LIGHT CO.  
DIGICOM INC  
DOW JONES AND COMPANY, INC.  
EBASCO SERVICES, INC.  
EDUCATIONAL BROADCASTING COMPANY  
EDWARDS AND KELCEY INC



SUPPLEMENTAL SHOWING, PART 21.100(D)

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(CONT'D)

EMI COMMUNICATIONS CORPORATION  
FAIRCHILD COMM NETWORK MNGMT CO  
FIRST BOSTON CORPORATION  
FIRST NATIONAL BANK OF BOSTON  
FIRST NATIONAL BANK OF MARYLAND  
FRANKLIN COUNTY OF  
GREENWICH POLICE DEPARTMENT  
GROUP W TELEVISION / WJZ TV  
GRUMMAN AEROSPACE CORPORATION  
HARRISBURG CELLULAR TELEPHONE COMPANY  
HUDSON VALLEY COMMUNITY COLLEGE  
IBM RESEARCH AND DEVELOPMENT, INC.  
INTERACTIVE MEDIA SERVICES  
LAUREL RACETRACK  
LAWRENCE SCHOOL DISTRICT  
LEVER BROTHERS  
LIZ CLAIBORNE, INC.  
LOCAL AREA TELECOMMUNICATIONS INC  
LONG ISLAND RAILROAD COMMUNICATIONS DEP  
MALRITE  
MARYLAND STATE OF MASS TRANSIT ADMIN  
MCGRAW HILL, INC. NET ENG N-1  
MCI TELECOMMUNICATIONS CORPORATION  
MEDICAL COLLEGE OF PENNSYLVANIA  
METRO CABLE SYSTEMS, INC.



SUPPLEMENTAL SHOWING, PART 21.100(D)

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(CONT'D)

METRO MOBILE CTS OF FAIRFIELD COUNTY  
METROMEDIA COMMUNICATIONS CORPORATION  
METRONET COMMUNICATIONS  
METRONET INC RADIO PAGING  
MICRO TEL OF LONG ISLAND, INC.  
MICROBAND CORPORATION OF AMERICA  
MICROBAND WIRELESS CABLE OF NEW YORK, IN  
MICRONET COMMUNICATIONS, INC.  
MICRONET, INC.  
MICROWAVE PLANNING, INC.  
MICROWAVE SATELLITE TECH. - WOODSIDE  
MIDLAND COMMUNICATIONS CORPORATION  
MORGAN STANLEY  
MOTOROLA C & E, INC  
NASSAU, COUNTY OF POLICE DEPARTMENT  
NATIONAL WESTMINSTER BANK  
NBC SUBSIDIARY (WNBC-TV, INC.)  
NEW ENGLAND DIGITAL DISTRIBUTION, INC.  
NEW ENGLAND MICROWAVE INC (STORER)  
NEW ENGLAND TELEPHONE COMPANY  
NEW JERSEY BELL TELEPHONE COMPANY  
NEW JERSEY INTERCAMPUS NETWORK, INC.  
NEW JERSEY PUBLIC BROADCASTING AUTHORITY  
NEW YORK STATE OF OFFICE GENERAL SRVCS



SUPPLEMENTAL SHOWING, PART 21.100(D)

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(CONT'D)

NEW YORK CELLULAR GEOGRAPHIC SRVC AREA  
NEW YORK CGSA FOR ALBANY  
NEW YORK CITY HEALTH & HOSPITAL CORP  
NEW YORK CITY POLICE DEPARTMENT  
NEW YORK STATE ASSEMBLY  
NEW YORK STATE ELECTRIC AND GAS  
NEW YORK STATE HOSPITAL  
NEW YORK TELEPHONE  
NEW YORK UNIVERSITY, TELECOM. DEP'T.  
NEW YORK, CITY OF BOARD OF EDUCATION  
NORTHEASTERN PENNSYLVANIA CELLULAR TEL  
NORTHFIELD MT HERMON SCHOOL  
ORANGE COUNTY CELLULAR TELEPHONE CORP.  
OTSEGO COUNTY, NEW YORK  
PAINE-WEBBER  
PHOENIX COMMUNICATIONS, INC.  
PORT AUTHORITY OF NEW YORK & NEW JERSEY  
PROVIDENCE JOURNAL  
PRUDENTIAL BACHE SECURITIES INC  
PUTNAM COMPANIES  
RANA INC  
RCI NETWORK SERVICES  
ROBERT PLAN INSURANCE CORPORATION  
SAINT JOSEPH HOSPITAL  
SANDERS ASSOCIATES



SUPPLEMENTAL SHOWING, PART 21.100(D)

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(CONT'D)

SCHENECTADY COUNTY, NEW YORK/LAW ENFORCE  
SCRIPPS HOWARD BROADCASTING CO, INC  
SOUTHEASTERN PENNSYLVANIA AUTHORITY  
SOUTHERN NEW ENGLAND TELEPHONE CO  
SOUTHWESTERN BELL MOBILE SYSTEMS - MA  
SPEAR LEEDS AND KELLOGG INC  
SPENCER GIFTS  
STATE STREET BANK AND TRUST COMPANY  
STATE UNIVERSITY OF NEW YORK  
SUBURBAN CABLE TV CO INC  
SUPERIOR CABLE TV  
SUSQUEHANNA CELLULAR COMM LTD PARTNERSHI  
TELEMARK NETWORKS, INC  
TELEMEDIA COMMUNICATIONS, INC  
THE BOEING COMPANY  
TUFTS UNIVERSITY  
URBAN CABLESYSTEMS CORPORATION  
WATCH TOWER BIBLE & TRACT SOCIETY OF NY  
WATERFRONT COMMUNICATIONS CORPORATION  
WCAU-TV  
WELCH ALLYN INC  
WEST CORP COMMUNICATIONS, INC.  
WEST JERSEY HEALTH SYSTEM  
WESTCHESTER, COUNTY OF  
WHYY, INC.



SUPPLEMENTAL SHOWING, PART 21.100(D)

Liberty Cable Television  
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Windsor Court -> 245 East 25th, NY, 407 Park Ave, NY  
(CONT'D)

WILCO ELECTRONIC SYSTEMS, INC  
WXTV-TV

RESPECTFULLY SUBMITTED,

COMSEARCH

MICHAEL R. ROTH  
ENGINEER  
TRANSMISSION PLANNING SERVICES

COMSEARCH  
11720 Sunrise Valley Drive  
Reston, Virginia 22091  
(703) 620-6300

SUPPLEMENTAL SHOWING, RE: PART 94.15(b)

04/01/93

PURSUANT TO PART 94.15(b) OF THE FEDERAL COMMUNICATIONS  
COMMISSION RULES AND REGULATIONS, AN ENGINEERING ANALYSIS  
WAS PERFORMED BY COMSEARCH FOR:

LIBERTY CABLE TELEVISION

THIRD AVE -> 302 E 88TH, 38 EAST 85TH, NY  
1 LINCOLN PLAZA -> 30 LINCOLN PLAZA, NY  
WINDSOR COURT -> 245 EAST 25TH, 407 PARK AVE, NY  
205 E 64TH -> 144 E 84TH, 911 PARK AVE, NY  
205 E 64TH -> 155 EAST 73RD, 857 - 5TH, NY  
205 E 64TH -> 785 PARK AVE, NY

18 GHZ VIDEO MICROWAVE SYSTEM

THE RESULTS OF THE STUDY INDICATE THAT THE PROPOSED  
FREQUENCIES DO NOT CAUSE INTERFERENCE CONFLICTS WITH ANY  
EXISTING OR APPLIED-FOR FACILITIES IN THE AREA.

THE LICENSEES AND CALL SIGNS OF THE STATIONS CONSIDERED  
IN THE ANALYSIS ARE AS FOLLOWS:

AAD MICROWAVE SERVICES CORPORATION  
EMPIRE FOSTER MALTAS RXONLY

AAT COMMUNICATIONS CORPORATION  
GROVES WNTF925 WNTF926 WATERT

ABC RADIO NETWORK INC  
WNTF713 WNTF714 WNTI941

ABRAHAM AND STRAUS  
WNEI230 WNEI231 WNEI232 WNEP365

ACC NETWORK CORPORATION  
WLL906

COMSEARCH  
11720 Sunrise Valley Drive  
Reston, Virginia 22091  
(703) 620-6300

AETNA LIFE INSURANCE COMPANY  
WNTG240 WNTG241

ALBANY TELEPHONE COMPANY  
EXCHAN WLN829 WLU913

ALLENTOWN CELLULAR TELEPHONE COMPANY  
WLC579 WLV396 WLV417

AMERICAN NET. CORP. dba COMCAST CE  
E. LAWREN PISCAT TRENTO WLU865 WLU866  
WLV388

AMERICAN SATELLITE COMPANY  
KFN77 WLT371

AMICA MUTUAL INSURANCE CO C/O NEW ENG DI  
LINCOL WNTJ593 WNTJ594 PROVID

ASSOCIATED PRESS - CTS ENGINEERING  
WNEU726 WNEU727 WNEU728

AT&T COMMUNICATIONS  
KE2XGA NASHUA TEMP12 WJM60

BLUE CROSS BLUE SHIELD OF MASSACHUSETTS  
WNEH993 WNTJ749

BOLT BERANEK AND NEWMAN INC  
WNEK843 WNES254

BOSTON EDISON COMPANY  
KCE54 KQV46 MASSA WIA243

CABLE SCIENCE CORPORATION  
12161F 12205F 12399F 1BAYCL 225VAN 675LIN  
902DRE

CANTON CELLULAR TELEPHONE - PENNSYLVANIA  
WLU914 WMJ532

CARL COMPANY  
WNEW501 WNEW517

CELLULAR OF UPSTATE NEW YORK  
WLR257 WLR261



COMSEARCH  
11720 Sunrise Valley Drive  
Reston, Virginia 22091  
(703) 620-6300

CELLULAR TELEPHONE COMPANY OF NEW YORK  
NORTHV OYSTER PLAINV RIVERH

CHANNEL 13 TELEVISION  
60WASH RXONLY

CHANNEL 20 LICENSEE INC  
WNEC213 WNEY957 WNTB844 RECEIV

CHASE MANHATTAN B  
WNEE314 WNEF312 WNEF313 WNEI297

CITY UNIVERSITY OF NEW YORK  
MEDGAR MEDOLD

COLUMBIA UNIVERSITY  
WEH950 WEH951

COMDISCO DISASTER RECOVERY SERVICE  
WNEW385 WNEW386 WNEW387

COMMUNITY HOME ENTERTAINMENT  
DARROW RXONLY

COMPUGRAPHIC  
WNEE816 WNEE817

CONNECTICUT BANK AND TRUST COMPANY  
WGY428 WGY429

CONNECTICUT LIGHT AND POWER COMPANY  
KCH90 KYX94 WNEO535 WNEO536 WNEO537 WNEW710  
WNEW711 WGX602

CONNECTICUT PUBLIC BROADCASTING, INC.  
AVON FARMIN GLASTO HARTFO WLI722 WLI726

CONSOLIDATED EDISON COMPANY OF NEW YORK  
4IRVIN WNEK492 WNEQ666 WNEQ667 WNER861 WNTM742  
WNTM743 WGY376 WGY378

CONSOLIDATED RAIL CORPORATION  
WNTH266 WNTH267 WNTH268

CORP. SATELLITE COMMUNICATIONS INC (CSC)  
WNTB677 WHO628

DELMARVA POWER & LIGHT CO.  
WNEQ347 WNTK378 WED963 WJI79